

## UNCLASSIFIED

PE NUMBER: 0305220F

PE TITLE: GLOBAL HAWK DEVELOPMENT/FIELDING

## Exhibit R-2, RDT&amp;E Budget Item Justification

DATE

February 2005

BUDGET ACTIVITY

07 Operational System Development

PE NUMBER AND TITLE

0305220F GLOBAL HAWK DEVELOPMENT/FIELDING

Cost (\$ in Millions)	FY 2004 Actual	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total
Total Program Element (PE) Cost	0.000	333.167	308.533	208.729	133.258	132.663	145.991	109.284	Continuing	TBD
5144 Global Hawk	0.000	333.167	308.533	208.729	133.258	132.663	145.991	109.284	Continuing	TBD

Global Hawk and Predator no longer share the same Program Element (PE). Effective FY05, Global Hawk funding will be in PE 0305220F, project 675144. The new PE was named GLOBAL HAWK DEVELOPMENT/FIELDING. Predator funding moved to PE 0305219F, project 675143. This PE was named PREDATOR DEVELOPMENT/FIELDING. Beginning in FY06, Signals Intelligence (SIGINT) development and integration funding for all platforms, including Global Hawk, transfers to the Airborne SIGINT Enterprise PE 0304260F.

(U) **A. Mission Description and Budget Item Justification**

This program is budget activity 7, Operational Systems Development, because it utilizes Air Force R&D to develop a highly capable operational system.

The Global Hawk System provides high altitude, deep look, long endurance intelligence, surveillance, and reconnaissance (ISR) capability that complements space and other airborne collectors during peacetime, crisis, and war-fighting scenarios.

This funding is developing the highly capable Global Hawk System, which is comprised of an aircraft, a ground segment, and a support segment. The aircraft is a fully autonomous, high altitude, long endurance remotely piloted aircraft (RPA). The RQ-4A is an imagery intelligence-collecting RPA designed to carry 2,000 pounds of payload. The RQ-4B is a multi-intelligence collecting RPA designed to carry a 3,000-pound payload. Funds will also enable development of improved payload designs, including a Synthetic Aperture Radar (SAR) with Ground Moving Target Indicator (GMTI) capability, an Electro-Optical (EO)/Infrared (IR) camera, Signals Intelligence (SIGINT), and the Multi-Platform Radar Technology Insertion Program (MP-RTIP). The user will determine the optimal payload configuration and quantity for each aircraft based on current operational requirements. The Ground Station (GS) includes the Mission Control Element (MCE) and the Launch and Recovery Element (LRE). The support segment includes aerospace ground equipment, tech orders, spares, support equipment, and training, etc. to enable the Global Hawk System.

This program will participate in the development, testing and implementation of international standards (to include NATO standardization agreements) to ensure joint, allied and coalition interoperability.

## Exhibit R-2, RDT&amp;E Budget Item Justification

DATE

February 2005

## BUDGET ACTIVITY

07 Operational System Development

## PE NUMBER AND TITLE

0305220F GLOBAL HAWK DEVELOPMENT/FIELDING

(U) B. Program Change Summary (\$ in Millions)

	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>
(U) Previous President's Budget		336.159	226.579	226.502
(U) Current PBR/President's Budget	0.000	333.167	308.533	208.729
(U) Total Adjustments	0.000	-2.992		
(U) Congressional Program Reductions				
Congressional Rescissions		-2.992		
Congressional Increases				
Reprogrammings				
SBIR/STTR Transfer				

(U) Significant Program Changes:

In FY06, \$27M in Global Hawk SIGINT funding was transferred from PE 0305220F, project number 675144, Global Hawk, to the new Airborne SIGINT Enterprise PE 0304260F, project numbers 675183 (common development) and 675184 (Global Hawk).

In FY07, \$107.92M in Global Hawk SIGINT funding was transferred from PE 0305220F project number 675144, Global Hawk, to the new Airborne SIGINT Enterprise PE 0304260F, project numbers 675183 (common development) and 675184 (Global Hawk).

In FY06 (\$109M) and FY07 (\$90.1M) was added by the Air Force to facilitate a Global Hawk program realignment to meet operational readiness and development requirements.

## UNCLASSIFIED

## Exhibit R-2a, RDT&amp;E Project Justification

DATE

February 2005

## BUDGET ACTIVITY

07 Operational System Development

## PE NUMBER AND TITLE

0305220F GLOBAL HAWK  
DEVELOPMENT/FIELDING

## PROJECT NUMBER AND TITLE

5144 Global Hawk

Cost (\$ in Millions)	FY 2004 Actual	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total
5144 Global Hawk	0.000	333.167	308.533	208.729	133.258	132.663	145.991	109.284	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0		

Global Hawk and Predator no longer share the same Program Element (PE). Effective FY05, Global Hawk funding will be in PE 0305220F, project 675144. The new PE was named GLOBAL HAWK DEVELOPMENT/FIELDING. Predator funding moved to PE 0305219F, project 675143. This PE was named PREDATOR DEVELOPMENT/FIELDING. Beginning in FY06, Signals Intelligence (SIGINT) development and integration funding for all platforms, including Global Hawk, was transferred to the Airborne SIGINT Enterprise PE 0304260F.

(U) **A. Mission Description and Budget Item Justification**

This program is budget activity 7, Operational Systems Development, because it utilizes Air Force R&D to develop a highly capable operational system.

The Global Hawk System provides high altitude, deep look, long endurance intelligence, surveillance, and reconnaissance (ISR) capability that complements space and other airborne collectors during peacetime, crisis, and war-fighting scenarios.

This funding is developing the highly capable Global Hawk System, which is comprised of an aircraft, a ground segment, and a support segment. The aircraft is a fully autonomous, high altitude, long endurance remotely piloted aircraft (RPA). The RQ-4A is an imagery intelligence-collecting RPA designed to carry 2,000 pounds of payload. The RQ-4B is a multi-intelligence collecting RPA designed to carry a 3,000-pound payload. Funds will also enable development of improved payload designs, including a Synthetic Aperture Radar (SAR) with Ground Moving Target Indicator (GMTI) capability, an Electro-Optical (EO)/Infrared (IR) camera, Signals Intelligence (SIGINT), and the Multi-Platform Radar Technology Insertion Program (MP-RTIP). The user will determine the optimal payload configuration and quantity for each aircraft based on current operational requirements. The Ground Station (GS) includes the Mission Control Element (MCE) and the Launch and Recovery Element (LRE). The support segment includes aerospace ground equipment, tech orders, spares, support equipment, and training, etc. to enable the Global Hawk System.

This program will participate in the development, testing and implementation of international standards (to include NATO standardization agreements) to ensure joint, allied and coalition interoperability.

(U) **B. Accomplishments/Planned Program (\$ in Millions)**

	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>
(U) Continue spiral development and related tasks, to satisfy ORD requirements.				
(U) Aircraft		89.292	113.905	57.442
(U) Payloads		32.700	65.100	38.000
(U) Ground Stations		16.800	16.600	
(U) Support Segment		10.300	23.800	42.800
(U) Program Management		26.300	5.800	5.600
(U) Systems Engineering		16.800	16.300	16.700
(U) Test		22.200	30.000	23.200

Project 5144

R-1 Shopping List - Item No. 202-4 of 202-9

Exhibit R-2a (PE 0305220F)

1991

UNCLASSIFIED

## UNCLASSIFIED

## Exhibit R-2a, RDT&amp;E Project Justification

DATE

February 2005

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT NUMBER AND TITLE		
<b>07 Operational System Development</b>	<b>0305220F GLOBAL HAWK DEVELOPMENT/FIELDING</b>	<b>5144 Global Hawk</b>		
(U) Provide government test and evaluation support at Edwards AFB		9.500	9.751	7.611
(U) Provide government mission support, and other related costs.		9.214	9.664	9.692
(U) Demonstrations and exercises		3.700		
(U) Multi-Platform Radar Technology Improvement Program (MP-RTIP) sensor adaptation		33.594	17.613	7.684
(U) Continue advanced Airborne Signals Intelligence Program (ASIP) payload modernization for Global Hawk and U-2.*		62.767		
(U) Total Cost	0.000	333.167	308.533	208.729

\* ASIP platform integration for Global Hawk is in the spiral development line and for the U-2 it is in PE 0305202F, project 674820.

(U) **C. Other Program Funding Summary (\$ in Millions)**

	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>Cost to</u>	<u>Total Cost</u>
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>	
(U) AF RDT&E (PE 35205F)	315.728									
(U) AF RDT&E (PE 34260F)			5.029	5.200	5.305	5.424	5.544	5.632	Continuing	TBD
(U) AF RDT&E (PE 27423F)			5.429	15.998	11.099	15.625	19.875	23.669	Continuing	TBD
(U) Other APPN										
(U) AF MILCON		10.186	14.200	82.100						
(U) AF O&M		19.963	19.489	68.738	71.340	94.259	108.488	113.449	Continuing	TBD
(U) AF MILPERS		17.777	24.308	29.471	39.065	49.562	55.254	57.018	Continuing	TBD
(U) Aircraft Procurement, APPN 10 AF (HAE UAV)		354.127	397.652	493.218	536.821	509.214	479.579	469.110	Continuing	TBD
(U) Aircraft Procurement, APPN 11 AF (HAE UAV)				17.124	75.243	120.969	56.411	96.091	Continuing	TBD
(U) Other Procurement, 3080 (HAE UAV)		0.263	0.287		0.816					

(U) **D. Acquisition Strategy**

The Global Hawk program uses a Spiral Development strategy to provide the warfighter with a near-term, combat capability with increased, time-phased capability improvements as technology and risk achieve satisfactory levels.

## UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis												DATE February 2005			
BUDGET ACTIVITY 07 Operational System Development						PE NUMBER AND TITLE 0305220F GLOBAL HAWK DEVELOPMENT/FIELDING					PROJECT NUMBER AND TITLE 5144 Global Hawk				
(U) <u>Cost Categories</u> (Tailor to WBS, or System/Item Requirements) (\$ in Millions)	<u>Contract</u> <u>Method &amp;</u> <u>Type</u>	<u>Performing</u> <u>Activity &amp;</u> <u>Location</u>	<u>Total</u> <u>Prior to FY</u> <u>2004</u> <u>Cost</u>	<u>FY 2004</u> <u>Cost</u>	<u>FY 2004</u> <u>Award</u> <u>Date</u>	<u>FY 2005</u> <u>Cost</u>	<u>FY 2005</u> <u>Award</u> <u>Date</u>	<u>FY 2006</u> <u>Cost</u>	<u>FY 2006</u> <u>Award</u> <u>Date</u>	<u>FY 2007</u> <u>Cost</u>	<u>FY 2007</u> <u>Award</u> <u>Date</u>	<u>Cost to</u> <u>Complete</u>	<u>Total Cost</u>	<u>Target</u> <u>Value of</u> <u>Contract</u>	
(U) <u>Product Development</u> Spiral development	SS/CPAF	Northrop Grumman Information Systems, San Diego CA				210.346	Feb-05	268.454	Feb-06	180.682	Feb-07	Continuing	TBD		
SIGINT sensor development	SS CPAF	Northrop Grumman Electronic Systems Laboratory, San Diego CA				45.228	Feb-05						45.228		
Ground station development	SS CPAF	Raytheon, Falls Church, VA				12.377	Feb-05						12.377		
Communications systems development	SS CPAF	L-3, Garland, TX				3.300	Mar-05						3.300		
MP-RTIP adaptation	SS CPAF	Northrop Grumman, Melbourne FL				33.594	Feb-05	17.613	Feb-06	7.684	Feb-07	Continuing	TBD		
Subtotal Product Development Remarks:			0.000	0.000		304.845		286.067		188.366		Continuing	TBD	0.000	
(U) <u>Support</u> Contractor Program support	SS/CPFF	Northrop Grumman Information Systems, San Diego CA				1.433	Jan-05						1.433		
Govt. Program suppprt	MIPR	Various Govt Orgs				2.878	Dec-04	3.051	Dec-05	3.060	Dec-06	Continuing	TBD		
Subtotal Support Remarks:			0.000	0.000		4.311		3.051		3.060		Continuing	TBD	0.000	
(U) <u>Test &amp; Evaluation</u> Flight test and Evaluation	PO	AFFTC, Edwards AFB				9.500	Jan-05	9.751	Jan-06	7.611	Jan-07	Continuing	TBD		
Demo & Exercise Support	MIPR / CPFF	Various contractor				3.700	May-05						3.700		
Project 5144			R-1 Shopping List - Item No. 202-6 of 202-9									Exhibit R-3 (PE 0305220F)			

1993

UNCLASSIFIED

**UNCLASSIFIED**

[illegible]

## Exhibit R-4, RDT&amp;E Schedule Profile

DATE

February 2005

BUDGET ACTIVITY

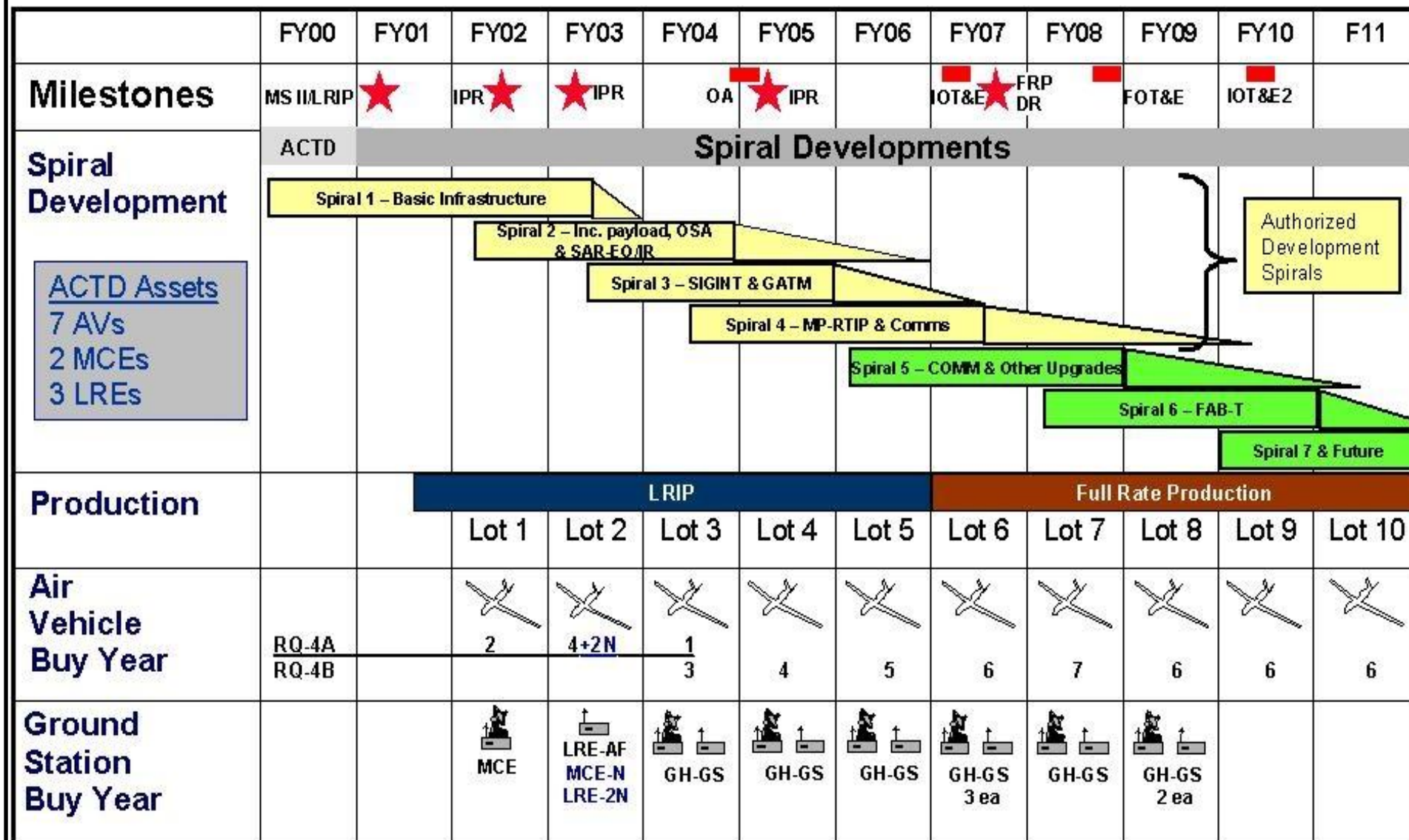
07 Operational System Development

PE NUMBER AND TITLE

0305220F GLOBAL HAWK  
DEVELOPMENT/FIELDING

PROJECT NUMBER AND TITLE

5144 Global Hawk



## UNCLASSIFIED

## Exhibit R-4a, RDT&amp;E Schedule Detail

DATE

February 2005

BUDGET ACTIVITY

07 Operational System Development

PE NUMBER AND TITLE

0305220F GLOBAL HAWK  
DEVELOPMENT/FIELDING

PROJECT NUMBER AND TITLE

5144 Global Hawk

(U) Schedule ProfileFY 2004FY 2005FY 2006FY 2007

(U) Spiral 4 contract definitization award

2Q

(U) SOUTHCOM Demo Initiation

2Q

(U) SIGINT High Band Subsystem (HBS Demonstration)

4Q

(U) Operational Assessment (FOL Fielding Strategy)

3Q

(U) Fuselage Ultimate Load Test (V-tail, composite AFT, metallic fuselage)

4Q

(U) MP-RTIP Integration CDR

1Q

(U) Award Spiral 5 Contract

2Q

(U) Wing Ultimate Load Test

3Q

(U) RQ-4B first flight

3Q

(U) Canadian Demo

4Q